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ABSTRACT

This paper summarizes and discusses the findings from interviews of 10 fifth graders conducted before and after each of their six U.S. history units. Special reference is made to potential curricular and instructional implications from the findings. The 10 students began the year with little historical knowledge and they displayed numerous mistaken assumptions, naive conceptions, and (in some cases) fanciful imaginations in their efforts to construct understandings. Many of these, especially about factual specifics, were replaced with more valid conceptions as the year progressed. However, certain confusions and misconceptions persisted and distorted most students' learning, especially those rooted in vague understanding of the time lines involved or in conflation of learning from historical and from literary (fictional) sources. Higher achieving students generally began with more (and more accurate) prior knowledge and learned more key ideas, but individual differences in interest in history created noteworthy qualifications on the generalization. (Contains 14 references.) (EH)

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LONGITUDINAL ANALYSIS OF FIFTH-GRADERS' HISTORY LEARNING

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Abstract

Summarized and discussed with reference to potential curricular and instructional implications are the findings from interviews of 10 fifth graders conducted before and after each of their six U.S. history units. The students began the year with little historical knowledge and they displayed numerous mistaken assumptions, naive conceptions, and (in some cases) fanciful imaginations in their efforts to construct understandings. Many of these, especially about factual specifics, were replaced with more valid conceptions as the year progressed. However, certain confusions and misconceptions persisted and distorted most students' learning, especially those rooted in vague understandings of the timelines involved or in conflation of learnings from historical and from literary (fictional) sources. Higher achieving students generally began with more (and more accurate) prior knowledge and learned more key ideas, but individual differences in interest in history created noteworthy qualifications on this generalization.

This article summarizes longitudinal trends (across a school year) in fifth-graders' knowledge and thinking about the U.S. history content taught in their social studies class. It addresses the prior knowledge (including frequent partial or naive conceptions and occasional crystallized misconceptions) that the students brought with them, individual differences in students' backgrounds and response patterns, aspects of the content that were difficult for the students to understand, and implications of these findings for curriculum and instruction.

Background and Rationale

Current theory and research on subject-matter teaching emphasize the importance of teaching school subjects for understanding, appreciation, and application, not just knowledge memorization and skills practice. Drawing on neo-Vygotskian theorizing and work on knowledge construction and conceptual change, educators have been developing methods of teaching school subjects in ways that connect with students' existing knowledge and experience and engage them in actively constructing new knowledge and correcting misconceptions. This approach presupposes development of a knowledge base describing what children typically know (or think they know) about the content taught at their respective grade levels. Curriculum developers and teachers then can use this information as a basis for developing instruction that both builds on students' existing valid knowledge and addresses their misconceptions.

Such a knowledge base is just beginning to be developed in history. There have been a few studies of degrees of sophistication in adolescents' historical understandings, mostly in Great Britain (Dickinson & Lee, 1984; Shemilt, 1984). However, there has not been much research on children's knowledge of and thinking about U.S. history. Levstik and Pappas (1987)

explored the development of children's historical understandings by asking them to recall a historical narrative and then to define history and distinguish it from "the past." McKeown and Beck (1990) studied fifth-graders' knowledge and thinking about the American Revolution before and after a curriculum unit on the topic. They subsequently reinterviewed some of those students as eighth graders. Barton and Levstik (in press) and Levstik and Barton (in press) have recently interviewed elementary students to study their understanding of historical time and other aspects of their historical representations. Matthew Downey also has been interviewing students to elicit their knowledge and thinking about history, focusing on the primary grades.

The authors have conducted a series of studies on the teaching and learning of U.S. history at the fifth-grade level. This work included a yearlong study in which fifth graders were interviewed before and after each of their six U.S. history units (on history and the work of historians, Native Americans, European discovery and exploration of the New World, the English colonies in America, the American Revolution, and westward expansion of the new nation). The preunit interviews developed information about what the students knew (or thought they knew) about the topic via information acquired in earlier grades or through reading or out-of-school experiences. The postunit data showed how the students' knowledge and thinking had changed (or not) in response to teaching and learning activities.

Data Collection and Analysis

The students attended an elementary school in a lower-middle class community in the midwest. The district's elementary social studies guidelines were couched within the expanding communities sequencing model and the district had adopted a widely used textbook series, so that although students were exposed

to historical content in scattered units in earlier grades, they were being introduced to chronological study for the first time in fifth grade. They were exposed to a traditional, primarily Eurocentric curriculum, although with some updating that reflected recent calls for more emphasis on social history, women and minorities, and multiple perspectives.

The larger line of work included written responses to KWL questions by entire classes of students (prior to the unit, students are asked what they Know about the topic and what they Want to learn about it, and after the unit is completed they are asked what they Learned). This report, however, focuses on the interviews conducted with a subsample of 10 students interviewed across the year. This subsample included five boys and five girls. Within each gender group, there were two high achievers, two average achievers, and one low achiever. Because we could interview no more than 10 students due to resource limitations, we weighted the sample toward higher achievers in the expectation that this would yield more substantive responses.

Before and after each unit, the students were interviewed individually using primarily open-ended questions about major topics addressed in the unit. Questions were designed to elicit extensive statements of students' knowledge and thinking. Subsequent analysis of the transcripts focused on qualitative aspects of their responses, not just on whether or not what they said was correct. Within and across units, the data identified the aspects of the content that were most salient to the students, the degree to which knowledge gaps were filled in and misconceptions were changed, and the degree to which certain misconceptions persisted despite exposure to more historically correct conceptions.

Analyses of the pre- and postunit findings for each of the six curriculum units considered individually have been detailed in technical reports and

journal articles, and they are summarized in detail in a book (Brophy & VanSledright, 1996). Our data replicate several sets of findings reported by previous investigators and extend the knowledge base about children's historical thinking to include many new topics and to take into account longitudinal change across the school year. In this article we draw from these findings to highlight noteworthy aspects of fifth-graders' historical knowledge and thinking that should be useful to teachers, curriculum developers, standards groups, and assessment specialists.

Findings

Most of the students entered fifth grade knowing that history has to do with the past, although many of them thought that it is limited to the exploits of famous or important people or to events that occurred long ago, not realizing that history includes the recent past and the lives of everyday people. Many students initially confused history with archaeology. Other than interviewing living witnesses, they did not know much about ways to discover information about the past except for digging up bones and other material found underground. They did not realize that a variety of written records extending back for thousands of years is available to historians.

Some of their misconceptions involved overgeneralization of specific examples (all American Indians lived in tepees and hunted buffalo; colonies were small villages surrounded by wooden stockades). Others simply repeated inaccuracies commonly included in stories told to children (everyone but Columbus thought that the earth was flat). Still others included elements generated by the children themselves in an attempt to make sense of these stories and fill in the explanatory gaps in them. For example, instead of saying that the Pilgrims landed "at" Plymouth Rock, several students said they landed "on"

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Plymouth Rock. Follow-up questioning indicated that some of them believed that the Pilgrims settled at Plymouth because they literally had sailed into Plymouth Rock and had to stop there because their ship was damaged. Similarly, when asked why people came to the New World, several students suggested that Europe was getting too crowded.

Achievement level and especially gender were associated with some of the continuities observed in these students' interview responses across the year. The boys were more likely to talk about wars and political events and their associated heroes (primarily white males). The girls were more likely to talk about family life and other aspects of the social history of the period, and in particular, to discuss any individual females studied during the unit.

Achievement level differences showed up more in styles of responding than in the volume of details provided. The latter was associated more closely with students' levels of interest in the topic. Most of the higher achievers restricted themselves to terse responses, being unwilling to guess or elaborate when unsure of their answers. In contrast, most of the average and lower achievers spoke more freely, being less prone to worry about making mistakes. Also, higher achievers mostly focused on main ideas presented succinctly with emphasis on explaining cause-and-effect relationships. In contrast, average and lower achievers often provided a greater variety of information and sometimes launched into extended narratives featuring the classic elements of story grammar. Some of these trends can be seen in brief profiles of individual students.

Jason: Jason was a high achiever whose responses revealed good learning of U.S. history but limited enthusiasm for it. He usually responded tersely, either saying that he didn't know or else giving a substantive response that was brief, to the point, and accurate as far as it went (although often lacking

in specific vocabulary). He began fifth grade with a good sense of how people lived prior to modern inventions, and as the school year unfolded he showed a good grasp of the major historical themes that were taught (competition for dominance in North America won by England; who came to the colonies and why; reasons for the Revolution; what might have happened if England won the war or if another country dominated North America; key ideas about the lives of explorers, colonists, and pioneers). He included Johnny Tremain on his list of revolutionary leaders and he displayed other minor confusions, but no serious misconceptions that persisted and distorted his learning. He tended to state facts and explanations briefly rather than launch into extended narratives.

Brad. In contrast, Brad, an average achiever, provided lengthy responses to most questions even though he had less prior knowledge to draw on than most of the other students. His responses were among the most instructive to read because he was interested in and reflective about history and often able to assume the perspective of the people being studied. He also was willing to take guesses and speak when unsure, even though this produced many examples of confusion or misconception, especially on preunit interviews. Among other things, Brad initially suggested that: People in the past were not as smart as we are because they didn't have modern inventions, Indians didn't have spices and didn't wear much for clothes, flint existed 10,000 years ago but no longer exists today, Indians wrote in words (although not in books like ours), explorers came to America looking for natural resources like coal and gravel, Columbus captained the Mayflower and kept going back to England to bring more people here, black people from Africa came to America on their own and only later were used as slaves, slaves didn't get paid but made pocket money doing extra jobs for people, and the pioneers had to fight a lot because they kept running into the French, the Indians, and the British. The latter notion was

one of several timeline confusions that included a tendency to conflate elements of the French and Indian War with elements of the American Revolution, to conflate information learned about Jamestown and Plymouth with information learned about the colonies on the eve of the Revolution, and to conflate information learned about early pioneers crossing the Appalachians with information learned about later pioneers in the west. For Brad and for the other students, these timeline confusions were more persistent and distortive of later learning than were most of the inaccuracies concerning specific details.

Teri. Although she was a high achiever, Teri was the most difficult student to interview. Her preunit interviews featured mostly "I don't know" responses due to her unwillingness to guess or elaborate, and her postunit interviews featured accurate but terse responses. Except for a few sparks of interest, she didn't seem to care much about the history she was learning. She remembered most of the big ideas, but not many names or other details. She didn't express any notably naive ideas or gross misconceptions, but her knowledge growth across the year was spotty relative to what it might have been if she had developed a greater interest in the subject.

Helen. In contrast, Helen was an average achiever with high interest in history and a great deal of prior knowledge. However, much of this prior knowledge was inaccurate or conflated. She often engaged in extended narratives, frequently replete with naive conceptions and fanciful elaborations (VanSledright & Brophy, 1992). For example, she told us that although Columbus gets credit for discovering America, when he reached it he found that it was already owned by Amerigo, who was "a pirate or something" who had arrived two years previously and decided to name the place after himself. She had reconstructed this narrative based on information retained from viewing an

episode of the "Chipmunks" show in which Simon and Alvin were helping Theodore to prepare for a history test. Helen also reported that the Pilgrims had settled at Plymouth Rock, which she located in the Upper Peninsula of Michigan; that their boat was called the Mayflower, which is how we got the saying "April showers bring May flowers;" and that they had come to the New World because "their own world was getting wrecked by something. Someone was trashing it. They were ruining their world and they had to find a new one." She added that the first winter was rough because the people did not know how to survive in the New World and "they had just one little loaf of bread and it had to last them all winter. Then the Indians brought them food when the spring came for Thanksgiving and that's how we had Thanksgiving. They had turkey and stuffing."

Along with these narrative excursions, other interesting features of Helen's interviews included: the frequent coexistence of accurate and inaccurate ideas without recognition of their contradictions; a tendency to engage in post facto attribution of motives that might explain items of historical information (such as suggesting that the Indians would not have discovered Europe because "they didn't want to go somewhere they knew there would be other people and they wouldn't get along"); a tendency to report direct conversations between people who never met and often were widely separated from one another in time or space; and a tendency to generate fanciful or otherwise unique and inaccurate content, especially when she engaged the narrative mode or conflated two or more different stories. Her narrative and fanciful tendencies were much more noticeable earlier than later in the year, however, when she began to produce more nonnarrative causal analyses. Even so, her misconceptions were more resistant to change and more active in distorting her learning than those of the other students.

The contrast between Helen and Teri is instructive. Helen's responses remind us that interest in the subject and willingness to talk without worrying about being absolutely accurate make for much more engaging interview transcripts, but do not make up for intellectual or cognitive style problems that create and sustain misconceptions. Still, we suspect that many historians and many teachers (at least at this grade level) would prefer Helen's mistake-ridden but enthusiastic approach to history over Teri's tendency to learn accurately but without interest. This assumes, however, that Helen would make continued progress toward more mature historical understandings and grow out of her tendencies toward wholesale conflation and fanciful story generation.

Rita. Rita's fascination with history compensated somewhat for her low achievement level. The other low achiever, Ned, gave the kinds of answers that we expected. He said "I don't know" to a great number of questions and when he did make substantive responses, usually gave vague answers lacking in specifics, details, or focus around main ideas. In contrast, Rita frequently expressed naive ideas and harbored persistent misconceptions that distorted her learning, but she also possessed an unusually rich and mostly accurate fund of prior knowledge, was highly interested in the subject, and tended to empathize with the people being studied. An important reason for this was a family connection extending back to the Pilgrims that contributed to a strong interest in history. Like Helen, Rita often produced extended narrative responses, inserted personal commentary about or reactions to the people or events being described, and talked at length about details or side issues instead of main ideas. However, many of these aspects of her response style had waned by the second half of fifth grade, when her responses became more accurate, detailed, and analytic rather than narrative. Among the 10 students, Rita probably showed the greatest cognitive growth across the year.

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These examples from individual students illustrate that independently of achievement level differences, there were interesting differences in the students' thinking that appeared to be rooted in differences in cognitive developmental levels. Four of the students occasionally verbalized naive ideas (e.g., Native Americans used every single part of the deer and never threw anything away). The other six students also verbalized misconceptions, but without this naive quality to them (e.g., all Native Americans lived in tipis and hunted buffalo). Most of the naive responses had disappeared by the second half of fifth grade.

There appeared to be associations between achievement level, accuracy of relevant prior knowledge, and indicators of response quality. However, there was only a loose (negative) relationship between achievement level and verbalization of naive ideas. Finally, there was no relationship between achievement level and interest in history or tendency toward reflective, empathetic responses (see Table 1).

[Insert Table 1 about here.]

The students who generated extended narrative responses tended to be the same ones whose learning was distorted by persistent misconceptions. They also tended to be average or below in achievement level, prone to verbalize naive ideas, and yet highly interested in history and able to assume the perspective of the people being studied.

Some of the most interesting and practically important findings concern the kinds of implicit assumptions and misconceptions that did or did not persist across time and instruction. Misconceptions were much more prevalent in the preunit interviews, where many of the students' responses were guesses

developed from limited (and sometimes partially inaccurate) knowledge. Most erroneous guesses, especially about factual specifics, were replaced on the postunit interviews with accurate information learned during the units. So were most of the inaccurate preunit statements that conflated elements of state history learned in fourth grade with elements of U.S. history learned in fifth grade. These developments are heartening because they suggest that misconceptions embedded in prior knowledge are less likely to persist and distort subsequent learning of fifth-grade U.S. history than they appeared to be initially.

However, certain confusions and misconceptions did persist and distort learning. Examples commonly observed even in postunit interviews included: the belief that historians work like archaeologists by reconstructing artifacts dug up or found above the ground (common in students who did not know or appreciate that written records go back several thousand years); the belief that the Plains tribes moved around frequently to find better weather or farmland (common in students who did not yet appreciate what they had been taught about, or could not yet conceive of, the notion of a nomadic hunting and gathering society that moved with the buffalo); the notion that the early European ship captains not only discovered new lands but then went back and recruited settlers and brought them to America to establish colonies (common in students who failed to appreciate that more than 100 years elapsed between 1492 and 1607); and the notion that, had it not been for the Louisiana Purchase, much of the midwest might have remained undeveloped wilderness.

Other misconceptions persisted in one or more individuals: the idea that Europeans wanted to come to America because Europe was overcrowded or because they were slaves seeking to escape their masters; the idea that people stopped coming to America (or even started going back to England) because it started to

become too crowded; the notion that slaves were not paid by their masters but could make pocket money by doing odd jobs for someone else; and many more. Some of these misconceptions involved confusion between actual historical people or events and those depicted in children's literature (naming Johnny Tremain as a signer of the Declaration of Independence or Louisa May Alcott as a female leader in the Revolution). These examples were part of a larger set of findings indicating that there are limitations as well as advantages to using children's literature as content sources for history teaching.

Discussion

The 10 students we interviewed all came from a single classroom. However, socioeconomic indicators for their community are at or only slightly above national averages and the social studies curriculum at their school conforms to what has been called the "de facto national curriculum" that features the expanding communities content sequence and introduces students to chronological historical study in fifth grade. Thus, the students were representative of a great many fifth graders in contemporary U.S. schools. Also, their responses to our interview questions are quite similar on comparable dimensions to responses elicited by McKeown and Beck in the Pittsburgh area, Levstik in Kentucky, Barton in Cincinnati, and VanSledright in southern Maryland.

The findings indicate that entering fifth graders exposed to a typical K-4 social studies program share a lack of familiarity with history as a discipline or school subject. They have knowledge about "life in the olden days," and they usually have been exposed to some historical information through lessons on holiday themes or units on Native Americans or the pioneers. However, they have not yet learned much if anything about the history of the

nation as a nation. Nor do they know much yet about the nature and extent of historical source material, about the data collection and reasoning processes involved in constructing historical accounts, or about the need to empathize with and appreciate the points of view of historical figures.

Much of the historical information they learn as fifth graders is new to them, and where prior knowledge does exist, it tends to be vague, spotty, and sometimes distorted by naive conceptions and inaccurate assumptions or imaginations. Children's opportunities to develop knowledge about history through their own personal exploratory learning are limited. Consequently, they are more dependent on cultural transmission processes when developing ideas about history than they are when developing ideas about mathematics or science. When conceptual change occurs, it is less a matter of changing experience-based misconceptions than a matter of reconstructing historical understandings that have been pieced together from unsystematically acquired bits of information or extrapolated imaginatively from limited direct experience.

Even so, our findings support the body of work developed in recent years that indicates that elementary students are interested in history and capable of developing meaningful historical understandings even though many of them are not yet very skillful at abstract thinking. It may not be reasonable to expect them to develop the kinds of historical knowledge and reasoning abilities that the discipline expects of academic historians. However, as Levstik (1986) noted, it is reasonable to expect them to develop historical knowledge of limited validity--knowledge that is incomplete in content and limited in purview but valid as far as it goes (that is, consistent with current disciplinary views). Gardner and Boix-Mansilla (1994) expressed similar views in discussing

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common sense knowledge and proto-disciplinary knowledge that precede the development of disciplinary knowledge.

Much of the historical knowledge of the students we studied was represented in the form of story-like narratives that featured a setting, a plot focused on the motives and goals of one or more focal individuals or groups, and a resolution that carried implications for the futures of these people and others included in the story. The stories featured themes such as monarchs competing for power and glory through land claims and territorial wars, colonists uniting to proclaim and fight for their freedom from British rule, and pioneers struggling against adversity to establish new communities.

Less sophisticated versions often were vague or inaccurate about the temporal and geographic specifics of the settings, and many of them featured overtly narrative renderings of stories personalized around hero figures. More sophisticated versions were more specific and accurate about time and place, were formulated more as cause-and-effect explanations than as conventional stories, and described larger historical trends involving sizeable populations or geographical areas rather than only recounting what happened to a particular individual or small group during the course of a particular event. However, even the most sophisticated versions still tended to be primarily narrative descriptions (with explanations) of historical events and trends, delivered primarily as factual information. There were few comments on the nature and quality of the evidence, characterizations of the points of view of various stakeholder groups, references to alternative interpretations, or other indications of the kinds of historical reasoning brought to bear by disciplinary specialists. However, VanSledright and Kelly (1995) found that the fifth graders they studied appeared to be on the cusp of these more sophisticated insights.

To a degree, the students were able to overcome tendencies toward presentism and other biases in order to identify and empathize with some of the people they studied, especially those portrayed as heroic figures or victims of oppression. This was especially the case with slaves and with Native Americans, although in the latter case, the focus of identification shifted to the (white) pioneers as the school year progressed. To the extent that the students were encouraged and helped to do so, they also showed an ability to see both sides of an issue, such as the contrast between King George's views and the American rebels' views of the events that led to the American Revolution. However, these fifth graders did not display advanced forms of historical empathy reflecting deep and contextualized knowledge of the people they studied. For example, they did not evaluate historical figures' goals or strategies by taking into account the information available to these people at the time in question. Nor did they point to people's prior philosophies or experiences that might have predisposed them toward particular views or courses of action.

The students understood general chronological sequences, such as that land transportation developed from walking to horse-drawn carriages to engine-powered vehicles. However, they had difficulty mapping these advances onto timelines or keeping track of particular dates. This need not be a significant impediment to good historical teaching and learning, because the most powerful historical knowledge is focused around chronological sequences or periodizations rather than precise dates, and especially around the cause-and-effect relationships that explain the trends that developed (Keil, 1984; Levstik & Barton, in press). Even so, we see some value in helping students to locate historical events in time and space and to keep track of advances in technological developments and the general "state of the world."

Many of the most persistently inaccurate assumptions or misconceptions expressed by the students concerned the temporal and spatial relationships among the people and events being studied. The students clearly needed help in seeing how the historical content they were studying fit within the broader sweep of human history.

There is no need to start with the beginnings of recorded history and proceed forward in strict chronological order. However, it would be helpful to place the study of U.S. history into context with reference to timelines, landmark events and inventions, and social and political developments. An adequate context for supporting the traditional (primarily Eurocentric) introduction to U.S. history might include introduction to (1) several broad themes in sociopolitical developments through time (progression from nomadic hunting and gathering societies, to stable but small farming communities, to the rise of towns as centers of commerce and culture, to city-states and federations, to larger nations; and progression in European perceptions from a world centered around the Mediterranean, to a world centered around the Middle East, to a world centered around the Atlantic Ocean); (2) life in Europe during the 15th and 16th centuries (modern in many respects but without engine-powered transportation, electronic communications, etc.); and (3) the leading European nations' economic agendas and rivalries that led them to search for better routes to the Far East and to establish colonies all around the world.

An adequate context for supporting a less traditional (multicultural) introduction to U.S. history would also include information about pre- and post-Columbian life among Native American tribes who experienced early encounters with European explorers and colonists, as well as life in Africa and in America among people who became enslaved. At least in some areas, the context might also include description of native life in Mexico and the

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southwest, before and after colonization by the Spanish. To encourage students to invest themselves in historical studies, teachers will need to tailor their curricula so that the students understand themselves to be studying "our" history, not just "their" history.

Also, establishing a context will provide students with a better sense of who the different people that they study were, what agendas they pursued, and what resources they had available. A few lessons devoted to this could go a long way toward helping students to remain aware of relevant timelines (and what they represent about conditions of everyday life and about world political and economic developments) as they study U.S. history. They also would lay a foundation for later studies of "encounter" phenomena at the state and local levels.

What the students retained from state history studies in fourth grade often was more confusing than helpful to their progress in studying U.S. history in fifth grade. Most of these confusions dropped away, but even so, we believe that it might be worthwhile to eliminate chronological coverage of state history from state studies in fourth grade and instead insert it into fifth grade, following study of U.S. history. This would still leave room for a great deal of emphasis on the state in teaching regional geography (and related social and cultural content) in fourth grade. Historical developments might be included (e.g., noting that fur trading was important in Michigan's early economic history, and that logging, farming and orchards, and the auto industry became important later). However, systematic chronological treatment of state history would be saved for fifth grade. This would minimize development of the conflations of national and state history that were observed so frequently in our interviewees.

More generally, we suggest that units dealing with people or events from the past that are taught prior to fifth grade might be taught with emphasis on their anthropological or citizen education aspects, without much emphasis on historical chronology. That is, units on Native American tribes or on pioneers could emphasize their daily lives and activities, units on holidays could emphasize our reasons for celebrating them, and units on famous Americans could emphasize their accomplishments and value as role models, but without attempting to place these topics within a chronology of history. We believe that this already is the current practice in most K-4 classes, in which historical topics are addressed without much attention to chronological coherence. This should minimize students' conflations and misconceptions as they began systematic study of history in fifth grade. An alternative would be to align the order of topics studied in earlier grades with an accurate historical chronology. This would be difficult to accomplish in most classrooms, however, given the preponderance of the expanding communities curriculum in elementary social studies.

There is broad agreement on the value of exposing students to varied data sources and providing them with opportunities to conduct historical inquiry, to synthesize and communicate their findings, and to learn from listening to or reading biography and historical fiction selections in addition to conventional textbooks. It is important, however, for teachers to screen these data sources and guide students in their use. Many historically-based tradebooks offer romanticized rather than realistic portrayals of historical figures and events, feature chauvinistic or otherwise biased interpretations, or reflect other problems in content selection or representation that undermine their value as historical content sources.

Teachers also will need to help their students keep fictional sources in perspective, so that they do not confuse the real with the fictional (like the student who named Johnny Tremain as a leader of the American Revolution), overgeneralize from the specific (like students who developed the notion that life for all children in all of the colonies was like the life of a child they read about who lived among the Puritans at Plymouth Planation), or focus their attention on particular characters or incidents rather than on more powerful generalizations or explanations (like the students who did not remember much more about the Oregon Trail expedition than that it involved people named Flaming Hair, Long Knife, and Bird Woman). The motivational and insight benefits that might be derived from using fictional sources must be balanced against their potential for inducing distorted learnings. Some distortions are probably inevitable, and most will be cleared up without great difficulty. Still, teachers should minimize such problems by screening historical fiction sources for authenticity and by helping their students to understand the differences between fictional and historical representations (Levstik, 1989; VanSledright, 1994).

Discussion of additional issues raised by these data may be found in Brophy and VanSledright (1996). Along with detailed presentation of the KWL data and interview responses from students studied across an entire school year, the book contains detailed case studies of fifth-grade history units taught by three teachers with effective but contrasting approaches to the subject.

Conclusion

Teachers who are aware of their students' inaccurate assumptions and naive conceptions can minimize their frequency and persistence. Commonly

observed naive conceptions can be prevented or cleared up for most students by incorporating reference to them in the process of providing clear and accurate information when introducing the content. Where this has been insufficient, or where students have developed unanticipated misconceptions, these can be addressed during subsequent content development and application activities.

To become aware of these naive conceptions, teachers will need to employ learning activities and assessment devices that encourage students to express their understandings at length and in their own language. Pretests or less formal KWL-like exercises are useful for eliciting students' prior knowledge and thinking whenever new units or topics are introduced. Thereafter, teachers can keep abreast of developments in their students' understandings by emphasizing open-ended questions that call for explanations or other extended statements rather than recitation of brief words or phrases. They also can emphasize activities, assignments, and assessment instruments that call for students to reflect upon, synthesize, and communicate connected understandings of what they are learning.

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Table 1. The 10 Students' Individual Characteristics as Interview Respondents

Name	Gender	Achievement Level	Interest in History	Typical Response Length	Includes Lengthy Narratives	Focuses on Main Ideas	Reflective, Empathetic Responses
Jason	M	High	Medium	Terse	None	Yes	No
Tim	M	High	High	Extended	None	Yes	Yes
Mark	M	Average	Medium	Extended	None	Yes	No
Brad	M	Average	High	Extended	A Few	Yes	Yes
Ned	M	Low	Medium	Terse	None	No	No
Teri	F	High	Low	Terse	None	Yes	No
Sue	F	High	High	Extended	None	Yes	Yes
Helen	F	Average	High	Extended	Many	No	Yes
Kay	F	Average	Medium	Extended	None	Yes	No
Rita	F	Low	High	Extended	Some	No	Yes

Table 1 (cont'd.)

Amount of Prior Knowledge	Accuracy of Prior Knowledge	Mentioned Sources of Prior Knowledge					Presence of Naive Ideas	Persistent Misconceptions Distorted Learning	Growth Across The Year
		School	Family	TV, Movies	Trade Books	Computer Games			
High	High	Yes	Yes	Yes	Yes	No	Low	No	Medium
High	High	Yes	No	No	Yes	Yes	Low	No	High
High	High	Yes	Yes	No	Yes	Yes	Low	No	Medium
Low	Mixed	Yes	Yes	Yes	Yes	No	Medium	Yes	High
Low	High	Yes	No	Yes	No	No	Low	No	Low
Low	High	Yes	Yes	Yes	Yes	No	Low	No	Medium
Low	High	Yes	Yes	Yes	No	No	High	No	High
High	Low	Yes	Yes	Yes	No	No	Medium	Yes	High
Low	High	Yes	No	Yes	No	No	Low	No	High
High	High	Yes	Yes	Yes	Yes	Yes	High	Yes	High